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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/510,562	10/07/2004	Klaus Kneller	12604/10	4036
26646	7590	07/12/2006	EXAMINER	
KENYON & KENYON LLP ONE BROADWAY NEW YORK, NY 10004			MCCLLOUD, RENATA D	
			ART UNIT	PAPER NUMBER
			2837	

DATE MAILED: 07/12/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/510,562

Applicant(s)

KNELLER, KLAUS

Examiner

Renata McCloud

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 27 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 28-56 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 39 and 56 is/are allowed.
- 6) ☒ Claim(s) 28-38, 40-55 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Claim Objections*

1. Claim 55 objected to because of the following informalities: Claim 55 recites the limitation "the second critical value". There is insufficient antecedent basis for this limitation in the claim. Appropriate correction is required.

### *Claim Rejections - 35 USC § 112*

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 34,35,38,40 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 34,35: The limitation "wherein one of" is indefinite. It is unclear what is being claimed. It is unclear if the claim reads "either (a) or (b)" occurs, or if the claims reads "wherein one of at least one supply module includes a feedback unit and wherein one of the converter system further comprises..."

Claim 38 recites the limitation "other capacitors". There is insufficient antecedent basis for this limitation in the claim.

Claim 40: The last two lines of the Claim are indefinite. The limitation "at least one of" makes the Claim unclear. It is unclear what is being claimed

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 28-37,48,53 rejected under 35 U.S.C. 103(a) as being unpatentable over Lamparter (US 4061948).

**Claims 28,48,53:** at least one supply module (2,3) providing an intermediate voltage (col. 1:12-28); a drive circuit comprising at least one inverter (8,9) to drive at least one motor (12,13); a buffer (15-18) to store energy; a bus system (the lines connecting the circuit together, for example fig 1:4,5,6,7) the buffer supplied with energy for periods of time when the intermediate circuit voltage exceeds a first critical value and regenerative power of a first drive module exceeds the power of a second drive module, and feeds back energy to at least one drive module when a motive power of the at least one drive module exceeds the regenerative power (col. 1:42-59). Lamparter et al refers to "excessive voltage" but do not explicitly recite "a motive power exceeds the regenerative power". It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Lamparter to transfer energy when the motive power exceeds the regenerative power since it is well known the art that voltage and power are proportional, in order to brake the motor.

**Claims 29, 49:** the motor includes one of a synchronous and an asynchronous motor (an ac motor is asynchronous).

**Claim 30:** the buffer (15-18) is supplied with energy for periods of time and releases the energy to the driver (8,9).

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**Claim 31:** the buffer (15-18) is supplied with energy during regenerative operation of the driver and releases the energy to the driver (8,9).

**Claims 32 and 33:** the supply module includes a rectifier (2,3).

**Claims 34, 35:** the supply module includes a feedback unit (14)

**Claim 36:** the supply module includes a circuit breaker (fig 2:21,22; fig 3:108).

**Claim 37:** the circuit breaker (108) is connected to an intermediate voltage measuring device (121).

**Claim 42:** Lamarter teaches the limitations of claim 28. Referring to claim 42, Lamarter does not explicitly recite that the buffer and supply module are in separate housings. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use separate housing since it has been held that constructing a formerly integral structure in various elements involves only routine skill in the art. (see MPEP 2144.04 (5)(C)). Also a method of forming the device is not germane to the issue of patentability of the device itself. Therefore the limitation "manufactured separately" has not been given patentable weight.

**Claim 43:** Lamarter teaches the limitations of claim 28, Referring to claim 41 they do not explicitly teach the buffer and supply module are integrated and arranged in a single housing. It would have been obvious to one having ordinary skill in the art at the time the invention was made to make the buffer and supply modules integrated since it has been held that forming in one piece an article which has formerly been formed in two pieces and put together involves only routine skill in the art (see MPEP 2144.04(5)(B))

**Claim 50:** the buffer (15,16), driver (8), and supply module (2) are connected through to a bus (lines connecting the circuit together, for example fig 1:4,6).

**Claim 51:** another module (3) connected to the bus system.

**Claim 52:** the buffer, driver, and supply modules are in the same interface (Fig. 1).

**Claim 54:** flowing current through a braking resistor to dissipate energy when a regenerative power of a first drive module exceed the power of a second drive module (col. 1:42-59)

**Claim 55:** first and second critical values that are equal (value for motor 13 and a value for motor 12, col. 5, 59-63, an equalizing circuit)

6. Claims 38, 40,41,43,44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lamparter in view of Ikeshita (US 5631813).

**Claim 38:** Lamparter teaches the limitations of claim 28. Referring to claim 38, they do not teach the buffer module includes a capacitor having a capacitance greater than a sum of capacitance of all other capacitors to which the intermediate circuit voltage is applied. Ikeshita teaches the buffer module includes a capacitor (7) having a capacitance greater than a sum of capacitance of all other capacitors to which the intermediate circuit voltage is applied (there are no other capacitors, so the sum would be 0). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Lamparter to use a capacitor as taught by Ikeshita in order to store large amounts of energy.

**Claim 40:** Lamparter teaches the limitations of claim 28, Referring to claim 40 they teach the buffer (15-18) is connected to an output of the supply module (2,3). Lamparter does not teach the buffer including a capacitor. Ikeshita teaches a buffer including a capacitor (7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Lamparter to use a capacitor as taught by Ikeshita in order to store large amounts of energy.

**Claim 41:** Lamparter teaches the limitations of claim 28, Referring to claim 41 they teach the buffer (15-18) is connected to an output of the supply module (2,3). Lamparter does not

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teach the buffer including an electrolytic capacitor. Ikeshita teaches a buffer including an electrolytic capacitor (7). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Lamparter to use a electrolytic capacitor as taught by Ikeshita in order to store large amounts of energy.

**Claim 43:** Lamparter teaches the limitations of claim 28, Referring to claim 41 they do not teach the buffer and supply module are integrated and arranged in a single housing. Ikeshita teaches buffer and supply module are integrated and arranged in a single housing (fig. 4:52) would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Lamparter to have the supply and buffer in a single housing as taught by Ikeshita

**Claim 44:** Lamparter and Ikeshita teach the limitations of claim 43. Referring to claim 44, Ikeshita teaches the buffer/supply module includes a circuit breaker (8) to allow passage of and block current induced by the intermediate circuit voltage (col. 1:30-39, 2:23-33). Lamparter teaches a switch (29/30) to allow passage of and block current induced by the intermediate circuit voltage (col. 3:64-4:26).

7. Claims 45,46 rejected under 35 U.S.C. 103(a) as being unpatentable over Lamparter in view of Ikeshita (US 5631813) as applied to claim 44 above and further in view of Takagi et al (US 6367273)

**Claim 45:** Lamparter and Ikeshita teach the limitations of claim 44. Referring to claim 45, Ikeshita teaches the circuit breaker (8) is connected to an intermediate voltage measuring device (71). They do not teach a driver for the breaker. Takagi et al teach a circuit breaker (27) having a driver (205). It would have been obvious to one having ordinary skill in the art at the

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time the invention was made to modify the apparatus taught by Lamparter and Ikeshita to have a driver as taught by Takagi et al in order to control the breaker.

**Claim 46:** Lamparter and Ikeshita teach the limitations of claim 44. Referring to claim 45, they do not teach a driver of the breaker connected to an intermediate current measuring device. Takagi et al teach the driver circuit (205) of the circuit breaker (27) is connected to an intermediate current measuring device (28)

8. Claims 47 rejected under 35 U.S.C. 103(a) as being unpatentable over Lamparter in view of Takagi et al (US 6367273)

**Claim 47:** Lamparter teaches the limitations of claim 28. Referring to claim 47, they do not teach the buffer includes a circuit breaker and drive circuit connected to a voltage measuring circuit the circuit breaker configured to influence supply to a braking resistor. Takagi et al teach the buffer (5) includes a circuit breaker (27) and drive circuit (205) connected to a voltage measuring circuit (50) the circuit breaker (27) configured to influence supply to a braking resistor (111). It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the apparatus taught by Lamparter to include the drive circuit as taught by Takagi et al an order to control the breaking of the motor.

#### ***Allowable Subject Matter***

9. Claims 39 and 56 are allowed.

#### ***Response to Arguments***

10. Applicant's arguments with respect to claims 28-56 have been considered but are moot in view of the new ground(s) of rejection.



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***Conclusion***

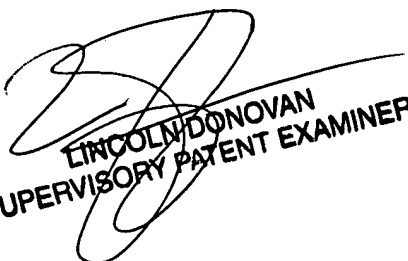
11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Renata McCloud whose telephone number is (571) 272-2069. The examiner can normally be reached on Mon.- Fri. from 5:30 am - 2pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 ext. 37. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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Art Unit 2837

rdm

  
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SUPERVISORY PATENT EXAMINER